(57)Abstract:

Problem to be solved:

To make it possible to easily know contents of update of a data broadcast program by transmitting information related to the update of the program contents by adding it to a group of data files for structuring the data broadcast program which is repeatedly broadcast and, in accordance with it, performing update and display of the data on the side of reception. Solution: A received signal is decoded at a data decode part 22 and fetched as a group of data files. A program contents analysis part 23 judges from a program name and program contents update information if

it received a program of the same program name in the past and whether the program contents of the same name received this time are the one updated or not, and, when it is a program that was not received in the past or it is the program received in the past but the contents are updated, a data display part 26 is informed by a program update notifying part 27 that new data arrive. Furthermore, data of a new program or of a program of which contents are updated are stored in a data file storage part 25 and a display of the data is performed at a data display part 26.

[Claims]

[Claim 1]

The data broadcasting transceiver system that transmits the data of the data program broadcast that is received by the terminal side, and is accumulated and displayed on a terminal side. The data broadcasting transceiver system characterized by having a means to send out the information about update of the contents of a program, and to perform update of data, and a display by the receiving side according to it in addition to the data file group that constitutes the data program by which repeat broadcast is carried out by data multiplex broadcasting or digital broadcasting using the vertical-blanking part.

[Claim 2]

 The data broadcasting receiving system characterized by having a means that receive the information about update of the contents of a program, and perform update of data, and a display according to it in addition to the data file group that constitutes the data program by which is the

data broadcasting receiving system on which the data of the data program broadcast are received, stored, displayed and repeat broadcast is carried out by data multiplex broadcasting or digital broadcasting using the vertical-blanking part.

[Claim 3]

The data broadcasting transmitting system characterized by having a means to transmit the information about update of the contents of a program in addition to the data file group that constitutes the data program in which is the data broadcasting transmitting system to which the data of the data program broadcast are made to transmit and repeat broadcast is carried out by data multiplex broadcasting or digital broadcasting using the vertical-blanking part.

[Claim 4]

The data broadcasting receiving system according to claim 2 characterized by having a means to judge the updating situation of the contents of a program by which repeat broadcast is carried out, and to perform update of received data, and a display based on the mentioned above decision from the difference between the file organization that constitutes the program of data broadcasting sent or a file size, to the data program by which repeat broadcast is carried out.

[Claim 5]

The data broadcasting receiving system according to claim 2 characterized by having a means to notify an

addressee about update information suitably with a screen display or a sound, according to the updating decision of the contents of program broadcast of a data program by which repeat broadcast is carried out.

[Claim 6]

The data broadcasting receiving system according to claim 2 characterized by having a means to stop the actuation of data processing until it made the program received once newly update according to the updating decision of the contents of program broadcast of a data program by which repeat broadcast is carried out.

[Claim 7]

The data broadcasting transceiver approach that transmits the data of the data program broadcast that is received by the terminal side, and is accumulated and displayed on a terminal side. The data broadcasting transceiver approach characterized by having the process that sends out the information about update of the contents of a program, and performs update of data, and a display by the receiving side according to it in addition to the data file group that constitutes the data program by which repeat broadcast is carried out by data multiplex broadcasting or digital broadcasting using the vertical blanking part.

[Claim 8]

The data broadcasting receiving approach characterized by having the process that receives the information about update of the contents of a program, and performs update of data, and a display according to it in addition to the

data file group that constitutes the data program by which is the data broadcasting receiving approach of receiving, storing, displaying the data and repeat broadcast is carried out of the data program broadcast by data multiplex broadcasting or digital broadcasting using the vertical-blanking part.

[Claim 9]

The data broadcasting transmitting approach characterized by having the process that transmits the information about update of the contents of a program in addition to the data file group that constitutes the data program in which is the data broadcasting transmitting approach to which the data of the data program broadcast are made to transmit, and repeat broadcast is carried out by data multiplex broadcasting or digital broadcasting using the vertical-blanking part.

[Detailed description of the invention]

[0001] [Field of the invention]

This invention relates to update of the contents of a data program of the system that transmits and receives the data program by which repeat broadcast is carried out in data multiplex broadcasting and digital broadcasting using the clearance between television video signals.

[0002] [Description of the prior art]

In recent years, an alphabetic character, data, a program, etc. are broadcast as one structure of data broadcasting using the clearance between television broadcasting signals (vertical-blanking Part = VBI), recording

reception of it is carried out with an accepting station, and the data multiplex broadcast service that can display it on a browser screen is beginning to spread.

[0003]

Whenever an addressee may turn on a receiving set, it is periodically repeated broadcast and the program of a category called news and a weather report with which the contents are updated suitably is in the data multiplex program by which current and service are carried out so that a program can be received by comparatively short time amount.

[0004]

But, it was not able to judge whether generally, since only the information on a program name besides the data file group that constitutes a data program from data broadcasting, and the time which starts sending out was sent, the thing as the contents of a program sent before it with the same contents of the program that those file groups constitute when program broadcast is repeated by the same program name, and the contents was updated.

[0005] [Problems to be solved by the invention] Therefore, even if the addressee could know whether the program itself would have been sent, addressee could not know easily whether it was that by which the contents of a program itself that received repeatedly were updated, but it was inconvenient.

[0006]

Also, in the accepting station of a cell drive, there was a problem that power consumption becomes large in order to always perform reception and are recording actuation, even if it is the program of the same contents, and the operating time became short.

[0007]

It was made in order that this invention might solve such a technical problem, and in addition to the information that constitutes a program for update information, it is sending out the update information of data and aims at notifying a receiving side about the update of contents of a program by which repeat broadcast is carried out.

[0008]

Moreover, it aims at carrying out updating distinction of the contents automatically from a configuration or a file size of the program data file sent by the receiving system side etc.

[0009]

Additionally, it aims at making an addressee specify the updating result of the contents of a program. Moreover, when the same program is repeated, it aims at attaining low power consumption of a device by stopping data processing actuation.

[0010] [Means for solving the problem]

In order to solve the above mentioned technical problem, the data broadcasting transceiver system concerning this

invention is proposed. In the television broadcasting by the ground wave and the satellite, by data multiplex broadcasting using the vertical blanking part, or digital broadcasting, transmitting the data of the data program broadcast and receiving by the terminal side, and the data-broadcasting transceiver system accumulated and displayed on a terminal side, and the data signal transmitted by packet zing is decoded. A data decoding means to generate the data file group that constitutes a program, a means to store the data file group of the decoded program, and a means to display the stored data file group, a means to analyze the information about update of the contents of a program, and a means to store program data, The receiving system equipped with a means to display the contents of a program, a means to display update of a program, and a means to stop data decoding and data storage actuation according to the result of having analyzed update of the contents of a program, it consists of a transmitting system equipped with the means that is at the data program work or data program organization time, and can add the information about update of the contents of a program.

[0011] [Embodiment of the invention]

Invention according to claim 1, wherein data multiplex broadcasting or digital broadcasting uses the vertical-blanking part. It is the data-broadcasting transceiver system that transmits the data of the data program broadcast, is made to receive by the terminal side, and is accumulated and displayed on a terminal side. It adds to the data file group that constitutes the data program by

which repeat broadcast is carried out. The information about update of the contents of a program is sent out, and it is followed. By the receiving side update of data, it is the data-broadcasting transceiver system characterized by having the means that display, and a receiving side can be notified about whether the contents of the program by which repeat broadcast is carried out were updated, and a receiving side has an operation that update of data can be carried out based on the information.

[0012]

Invention according to claim 2, wherein data multiplex broadcasting or digital broadcasting uses the vertical-blanking part. It is the data-broadcasting receiving system on which the data of the data program broadcast are received, stored and displayed. It adds to the data file group that constitutes the data program by which repeat broadcast is carried out. The information about update of the contents of a program is received, and it is the data-broadcasting receiving system characterized by having a means to perform update of data, and a display according to it, and has an operation that update of data can be carried out, based on program update information.

[0013]

Invention according to claim 3, wherein data multiplex broadcasting or digital broadcasting uses the vertical-blanking part. It is the data-broadcasting transmitting system to which the data of the data program broadcast are made to transmit. It adds to the data file group that constitutes the data program by which repeat broadcast is

carried out. It is the data broadcasting transmitting system characterized by having a means to transmit the information about update of the contents of a program, and has an operation that a receiving side can be notified about whether the contents of the program by which repeat broadcast is carried out were updated.

[0014]

Also, the file organization that constitutes the program of data broadcasting sent to the data program by which repeat broadcast of the invention according to claim 4 is carried out or the updating situation of the contents of a program by which repeat broadcast is carried out is judged from the difference in a file size. It is the data-broadcasting receiving system according to claim 2 characterized by having a means to perform update of received data, and a display based on the mentioned above decision, and has an operation of performing updating distinction of the contents automatically from a configuration or a file size of a program data file etc.

[0015]

Moreover, invention according to claim 5 is a data-broadcasting receiving system according to claim 2 characterized by having a means to notify an addressee about update information suitably with a screen display or a sound, according to the updating decision of the contents of program broadcast of a data program by which repeat broadcast is carried out, and has the operation of the ability to make an addressee specify the updating result of the contents of a program.

[0016]

Also, until invention according to claim 6 makes the program received once newly update according to the updating decision of the contents of program broadcast of a data program by which repeat broadcast is carried out, it is the data-broadcasting receiving system according to claim 2 characterized by having a means to stop the actuation about data processing, and when the same program is repeated, it has an operation of low power consumption of a device can be attained by stopping data-processing actuation.

[0017] Hereafter, the embodiment of this invention is explained with reference to figures 1 - 3.

(Embodiment 1) Figure 1 is a data-broadcasting transmitting structure of a system figure of the embodiment of this invention.

[0018]

11 is the whole data-broadcasting transmitting system, and the data program work equipment 12 creates the program data of data broadcasting, the data program organization equipment 13 manages the sending-out time amount and the sending-out sequence of program data, the storage 14 saves the program data after organization primarily, the data program sending-out equipment 15 sends out a data program to a transmitter according to organization, and 16 are the television transmitters that output by making data into an electric wave in figure 1.

[0019]

Figure 2 is a data-broadcasting receiving structure of a system figure in the embodiment of this operation. The Data Decode Part that decodes the tuner 20 shows the whole data-broadcasting receiving system 21 tunes in an electric wave, and the signal 22 was received, and 23 are the Contents Analysis Parts of a program that judge whether it is that by which the contents of a program of the same program name that was decoded, and received the program of the same program name from the data file group in the past, or updated was received this time. The Data File Storage Part 25that stores the received data, the data display part 26 that displays the data which was stored, the power saving force control circuit 24 controls actuation of a receiving set with directions of the Contents Analysis Part of a program, and achieves power saving, and 27 are the notice parts of update of a program for receiving directions from the Contents Analysis Part of a program, and notifying update of the contents of a program outside.

[0020]

Figure 3 is figure showing the data program configuration information used for the embodiment of this invention, and such information is transmitted as the attribute information with the program data.

[0021]

About this invention, the actuation is explained using the data program configuration information shown in the block diagram and figure 3 of the data-broadcasting

receiving system shown in the block diagram and figure 2 of the data-broadcasting transmitting system shown in figure 1.

[0022]

In the data-broadcasting transmitting system 11 on figure 1, the contents update information of a program that identifies whether the contents of a program were updated by the same program name according to the data program configuration information shown in figure 3 in addition to the file group and program transmitting start time that constitute a program name and a program is added in data program work equipment 12 or data program organization equipment 13.

[0023]

The contents update information of a program of figure 3 is described to be old when the contents same when the contents are updated as new and the former are sent. Once such information is stored in storage 14, it is sent and broadcast by the television transmitter 16 from data program sending-out equipment 15 according to assignment of program transmitting initiation time.

[0024]

The broadcast electric wave is tuned in and received by the tuner 21 of the data-broadcasting receiving system 20 represented in figure 2. The received signal is decrypted in the Data Decode Part 22, is taken out as a data file group, and is sent to the Contents Analysis Part 23 of a program. The Contents Analysis Part 23 of a program

notifies that new data reached the data-display Part 26 through the notice Part 27 of update of a program, when the contents are changed for whether it is that by which the contents of a program of the same program name that received the program of the same program name in the past, or was received this time were updated judging from a program name and the contents update information of a program, although it is the program that carried out past reception or past reception is not carried out. Also, the data of a program with which a new program or the contents was updated are stored in the Data File Storage Part 25, and read out of the display of data possible in the data display Part 26. The update information display of a program may be performed by the screen display, and with a sound.

[0025]

Moreover, when the contents update information of a program as shown in figure 3 is not added, in the Contents Analysis Part 23 of a program, it may be judged whether program information was updated only by the receiving side from the whole file group that constitutes a program, each file size, or the constituted file name.

[0026]

Also, when the Contents Analysis Part 23 of a program judges that the data which carried out past reception received again, the power saving force control circuit 24 works, and the actuation of those other than a circuit required for reception of tuners, such as data write-in

actuation to the Data File Storage Part, a data decoding part and the like is stopped.

[0027] [Effect of the invention]

As explained above, update of the contents of the data program can be easily known by the receiving set side by in addition to the data file group that constitutes the data program by which repeat broadcast is carried out, having sent out the information about update of the contents of a program, and having a means to perform update of data, and a display by the receiving side according to it.

[0028]

Moreover, by having judged the updating situation of the file organization that constitutes the program of data broadcasting sent by the receiving side, or the contents of a program repeatedly broadcast from the difference in a file size to the data program by which repeat broadcast is carried out, and having a means to perform update of received data, and a display in connection with it, from a transmitting side, even if there is no update information of the contents of a program, it can know update of the contents of the data program easily by the receiving set side.

[0029]

Also, an addressee can know update of the contents of the data program easily with a display or a sound by having a means to notify an addressee about update information suitably with a screen or a sound, according to the

updating decision of the contents of program broadcast of a data program by which repeat broadcast is carried out.

[0030]

Also, it is effective in the ability to achieve low power consumption of a receiving set by having a means to stop the actuation about data processing until it makes the program received once newly update according to the updating decision of the contents of program broadcast of a data program by which repeat broadcast is carried out.

[Brief description of the figures]

[Figure 1]

is the data-broadcasting transmitting structure of a system figure of the 1 embodiment of this invention.

[Figure 2]

is the data-broadcasting receiving structure of a system figure of this embodiment.

[Figure 3]

shows the data program configuration information used for this embodiment.

[Description of Notations]

11 Data-Broadcasting Transmitting System
12 Data Program Work Equipment
13 Data Program Organization Equipment
14 Storage
15 Data Program Sending-Out Equipment
16 Television Transmitter
20 Data-Broadcasting Receiving System
21 Tuner
22 Data Decode Part
23 The Contents Analysis Part of Program
24 Power Saving Force-Control Circuit
25 Data File Storage Part
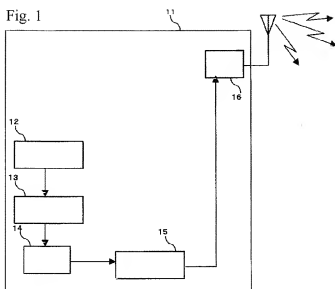26 Data Display Part
27 Program update notifying part

Fig. 1

Fig. 2

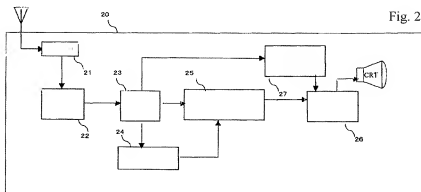Fig. 3

program name	program structure	contents update information	Program transmission start day and time	
News	a,b,c,d,e,f,g,h	new	1997/04/01	10:01:00
News	a,b,c,d,e,f,g,h	old	1997/04/01	10:02:00
game	o,p,q,r,s,t	new	1997/04/01	10:03:00
News	a,b,c,d,e,f,g,h	old	1997/04/01	10:03:30
game	o,p,q,r,s,t	old	1997/04/01	10:04:30
News	a,b,c,d,e,f,g,h	old	1997/04/01	10:05:00
sound	x,y,z,d,e,f,g	new	1997/04/01	10:06:00/
News	k,b,c,d,e,f,g,h	new	1997/04/01	10:08:00
News	k,b,c,d,e,f,g,h	old	1997/04/01	10:09:00
⋮	⋮	⋮	⋮	⋮

data program configuration information